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**Global Monitoring Division Hot Items****South Pole ozone hole update****Global Monitoring Division - ESRL-GMD**

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Scientists from NOAA Earth System Research Laboratory (ESRL), Global Monitoring Division, are closely watching the development of the Antarctic ozone hole from the South Pole observatory. During early September, with sunlight returning to the atmosphere over the South Pole, rapid depletion of the ozone layer begins and typically reaches a minimum by the first week of October. The changes are associated with ozone depleting substances (chlorofluorocarbons (CFCs) and other halogens) still remaining in the stratosphere, even after the production of these chemicals ceased through international agreements to protect the ozone layer. CFC12 and CFC113 are particularly long-lived, stable gases and therefore may take several more decades before the yearly Antarctic ozone hole completely disappears.

Bi-weekly, instruments called ozone sondes are carried aloft on balloons to measure the vertical distribution of ozone from the surface up to ~ 32 km. The recent results show total column ozone was at a typical level of 250 Dobson Units (DU) in August, dropping to 172 DU by September 19. The balloon profiles show the main depletion region, in the 14-21 km layer, has dropped by 52% (112 DU to 53 DU) since mid August. The Antarctic depletion of ozone has a year-to-year variability associated with stability of the polar vortex, and of the development of the low stratospheric temperatures required for the formation of polar stratospheric clouds (PSCs). These ice clouds catalyze the conversion of stable chlorine compounds into a form that reacts quickly with ozone as the sun illuminates the atmosphere over the Polar region. ESRL Global Monitoring Division and its predecessors have been monitoring the state of the ozone layer over Antarctic since November 1961, when observations with a Dobson ozone spectrophotometer were started. Watch recent postings related to this year's ozone depletion at ."

**More information:** [http://www.esrl.noaa.gov/gmd/dv/spo\\_oz/](http://www.esrl.noaa.gov/gmd/dv/spo_oz/) website**Contact information****Name:** Bryan Johnson**Tel:** (303) 497-6842**[Bryan.Johnson@noaa.gov](mailto:Bryan.Johnson@noaa.gov)****National Oceanic and Atmospheric Administration****U.S. Department of Commerce****[Admin login](#) | [Privacy Policy](#) | [DISCLAIMER](#)****[Contact Us](#)**<http://www.oar.noaa.gov>